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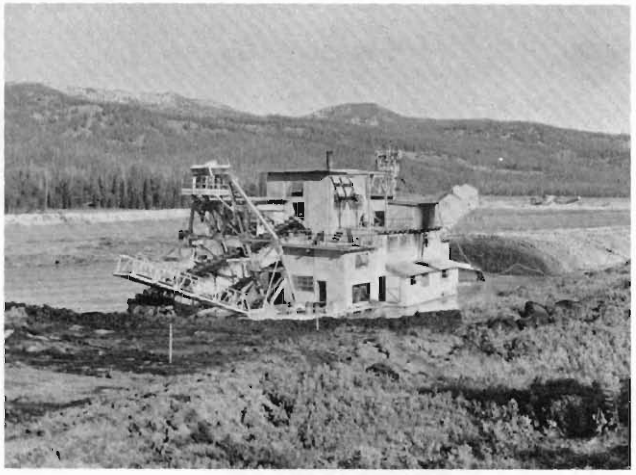

Connected-bucket dredges mining alluvium for the recovery of heavy minerals containing niobium, tantalum, and uranium. The dredges are operated by Porter Bros. Corporation in Bear Valley, Idaho. Photo courtesy Mining World.

NIOBIUM (COLUMBIUM) AND TANTALUM

Modern technology demands an ever-expanding production of rare metals for new applications in industry. Substitutes for these metals are many, but as rapidly as a cheaper or better substitute is developed, new uses may be discovered for the replaced metal. Niobium (columbium) and tantalum are two of the rare metals that are becoming increasingly important and are necessary to our industrial economy. A resumé of the history of these elements may assist in dispersing the confusion often associated with their nomenclature.

During the middle of the 17th Century, John Winthrop, the first governor of Connecticut, collected an interesting black mineral at a spring near his home in New London. Later his grandson sent the specimen to a friend in London and it eventually found a resting place in the British Museum. Here in 1801 it attracted the attention of the chemist Charles Hatchet who analyzed it and announced the discovery of a new element. After consultation with his associates, the new element was called columbium in honor of the country in which it originated and the mineral itself was called columbite.

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RECENT MINES PUBLICATIONS

Death Valley Map

In recent months, the Division of Mines has published or reissued several publications of widespread interest. Among these are the first sheet in the new geologic map of California (Olaf P. Jenkins edition). This sheet, harbinger of a new, colored geologic map of California on a large scale (1:250,000, or 1 inch = 4 miles), is the Death Valley Sheet, covering the two degrees of longitude between 116°00' west and 118°00' west, and the degree of latitude between 36°00' north and 37°00' north. This is roughly the area bounded on the south by Sykes siding to Grapevine Ranger Station on the north, and from the state line on the east to Owens Valley on the west.

The new map, printed in color by Williams and Heintz Lithograph Corporation, is being entered by the corporation in the 1959 ninth annual lithographic awards competition sponsored by the Lithographers and Printers National Association. The map shows the distribution of 33 geologic units, ranging over most of the geologic time scale from Precambrian to Recent.

The new Death Valley Sheet is priced at $1.50, together with a sheet showing source material and various other pertinent map data, both folded in a manila envelope. A limited number is available in tubes, for use flat.

Bay Counties Guide

One of the Division of Mines' best-known and most widely read books, "GEOLOGIC GUIDEBOOK OF THE SAN FRANCISCO BAY COUNTIES: HISTORY, LANDSCAPE, GEOLOGY, FOSSILS, MINERALS, INDUSTRY, AND ROUTES TO TRAVEL" is now available in a reprinted edition.

The book, issued as BULLETIN 154, has been eagerly awaited by those who were unable to purchase a copy after the first printing was exhausted, especially those who so enthusiastically received and remembered the first guidebook in the series, "Geologic guidebook along Highway 49". The new guidebook, like the first, deals with a region that contributed greatly to the color and character of the West: not only to its tales and legends, its swashbuckling history, and its fabulous wealth, but also to its steady economic cultural evolution to its present position as one of the nations' important centers.

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